

Serial No. 09/898,870
Art Unit No. 2665

LISTING OF CLAIMS

1. (canceled)

2. (currently amended) The method according to claim 5 ~~claim 4~~, wherein said identified packet processing unit of said more than one packet processing unit (PPU 11 to PPU M) derives from said piece of information associated to each data packet additional information about a desired packet treatment and alterations to be applied to the data packet (112), said requesting from said determined packet processing unit (PPU 11 to PPU M) includes a request for an identification of what desired treatment and what alterations are to be applied to the data packet (112), and said method further comprises a step of applying said desired treatment and said alterations to the data packet (112).

3. (currently amended) The method according to claim 5 ~~1 or 2~~, wherein said piece of information includes a destination address associated to each data packet (112).

4. (canceled)

CH920000022

-2-

Serial No. 09/898,870
Art Unit No. 2665

5. (currently amended) ~~The method according to claim 4,~~ A method for processing data packets (112) in a router (110) having a plurality of input ports (114), a plurality of output ports (114) and more than one packet processing unit (PPU 11 to PPU M) for deriving from a piece of information associated to each data packet (112) one of said plurality of output ports (114) to forward said data packet (112) to, said method comprising the steps:

determining one packet processing unit (PPU 11 to PPU M) of said more than one packet processing unit (PPU 11 to PPU M) in response to an appearance of a data packet (112) at one of said input ports (114), wherein said determining one packet processing unit is based on a split of an identifier vector space formed by the complete range of identifier vectors consisting of a set of fields included in the said data packets (112);

requesting from said determined packet processing unit (PPU 11 to PPU M) an identification of a respective output port (114) derived from a piece of packet information indicating where to forward said data packet (112) to; and

forwarding said data packet (112) to said identified output port (114),

CH920000022

-3-

Serial No. 09/898,870
Art Unit No. 2665

wherein the split of the identifier vector space is determined by assigning to each packet processing unit (PPU 11 to PPU M) a numerical quantity resulting of a pseudorandom function (rand) of an identifier indicating said particular packet processing unit (PPU 11 to PPU M) and a piece of information (identifier vector) associated to the data packet (112) to be processed and selecting said packet processing unit (PPU 11 to PPU M) having the highest numerical quantity assigned.

6. (currently amended) The method according to claim 5 ~~one of the preceding claims~~, wherein determining one packet processing unit (PPU 11 to PPU M) is additionally based on information about the workload of every single packet processing unit (PPU 11 to PPU M), whereby said information about the workload is periodically provided to be utilized for determining one packet processing unit (PPU 11 to PPU M).

7. (currently amended) The method according to claim 5 ~~one of the preceding claims~~, wherein the packet processing units (PPU 11 to PPU M) exploit the knowledge of the method of determining the particular packet processing unit (PPU 11 to

CH920000022

-4-

Serial No. 09/898,870
Art Unit No. 2665

PPU M) for processing the data packet in order to advantageously adjust their packet processing methods to take advantage of the said knowledge.

8. (canceled)

9. (currently amended) The system according to claim 12 ~~claim 8~~, whereby said identified packet processing unit of said more than one packet processing unit (PPU 11 to PPU M) ~~derive~~ derives from said piece of information associated to each data packet additional information about a desired packet treatment and alterations to be applied to the data packet (112), said means for requesting from said determined packet processing unit (PPU 11 to PPU M) are thus prepared to request an identification of what desired treatment and what alterations are to be applied to the data packet (112), and said system further comprises means for applying said desired treatment and said alterations to the data packet (112).

10. (currently amended) The system according to claim 12 ~~8 or 9~~, wherein the piece of information includes the destination address associated to each data packet (112).

CH920000022

-5-

Serial No. 09/898,870
Art Unit No. 2665

11. (currently amended) The system according to claim 12 ~~one of the claims 8 to 10~~, whereby said system (LC 1 to LC N) is situated at an input port (114).

12. (currently amended) A system (LC 1 to LC N) for processing data packets (112) in a router (110) having a plurality of input ports (114), a plurality of output ports (114) and more than one packet processing unit (PPU 11 to PPU M) for deriving from a piece of information associated to each data packet (112) one of said plurality of output ports (114) to forward said data packet (112) to, said system comprising:

means for determining one packet processing unit (PPU 11 to PPU M) of said more than one packet processing unit ~~units~~ (PPU 11 to PPU M) in response to an appearance of a data packet (112) at one of said input ports, means for requesting from said determined packet processing unit (PPU 11 to PPU M) an identification of a respective output port (114) derived from a piece of information indicating where to forward said data packet (112) to; and

means for forwarding said data packet (112) to said identified output port (114). ~~The system according to one~~

CH920000022

-6-

Serial No. 09/898,870
Art Unit No. 2665

~~of the claims 8 to 11,~~ whereby said system (LC 1 to LC N) determines one packet processing unit of said more than one packet processing unit (PPU 11 to PPU M) based on a split of an identifier vector space formed by the complete range of identifier vectors consisting of a set of fields included in the said data packets, wherein the split of the identifier vector space is determined by assigning to each packet processing unit (PPU 11 to PPU M) a numerical quantity resulting of a pseudorandom function (rand) of an identifier indicating said particular packet processing unit (PPU 11 to PPU M) and a piece of information (identifier vector) associated to the data packet (112) to be processed and selecting said packet processing unit (PPU 11 to PPU M) having the highest numerical quantity assigned.

13. (currently amended) A router (110) having a plurality of input ports (114), a plurality of output ports (114) and more than one packet processing unit (PPU 11 to PPU M) for deriving from a piece of information associated to each data packet (112) one of said plurality of output ports (114) to forward said data packet (112) to, characterized by a system (LC 1 to LC N) for processing data packets (112) according to ~~one of the claims 8 to~~ claim 12.

CH920000022

-7-

Serial No. 09/898,870
Art Unit No. 2665

14. (currently amended) A computer program product stored on a computer usable medium, comprising computer readable program means for causing a computer to perform a method according to claim 5 ~~anyone of the preceding claims 1 to 7.~~

CH920000022

-8-